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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,662	11/22/2006	Thomas Giering	GIER3004/JEK	7643
23364 7590 06/26/2009 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314-1176				
EXAMINER				
KOSLOW, CAROL M				
ART UNIT		PAPER NUMBER		
1793				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,662

Applicant(s)

GIERING ET AL.

Examiner

C. Melissa Koslow

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CS-100)
- Paper No(s)/Mail Date 11/10/08, 4/4/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

In the Information Disclosure statement of 4 April 2006, WO 01/48311 and EP 1,182,048 has been considered with respect to the provided English abstracts and DE 10120818, EP 659935, EP 52624 and EP 53124 have been considered with respect to the explanations of these references given in the specification. EP 1,182,048 was also considered with respect to the explanation given in the search report.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 21 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 provides for the use of the coding system of claim 1, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-25 are indefinite since it is unclear what is meant by "a coding system". The use of the term "system" in the preamble of the claim makes these claims system claims which have a definitive definition in U.S. patent practice. System claims, in the U.S. patent law, are claims

comprising interrelated components such as a group of apparatus which work together, a group of methods which either produce a single final product or are performed simultaneously, or an apparatus and a composition that is used in that apparatus, such as a system of an ink jet printer and ink. It is clear from claims 2-20 and 22-25 and the specification that the "coding system" in the claims are not "system" claims, as defined by U.S. patent law. It appears that these claims are actual composition claims.

In claim 1, it is unclear if the limitation starting in line 3 with "the possible" actually limits the system, or composition, since it is unclear if this is a proviso or not. This claim is also indefinite as to what it is directed to since this limitation makes the claim appear to be directed to a set of compositions, where each composition in the set is composed of the basic substance and each different is the presence, composition and/or number of additives, but the dependent claims are directed to a single composition.

Claim 4 is indefinite since it has an improper Markush group in that it is now unclear what is actual wavelength range applicants intend to cover and it results in undue multiplicity since the second range is encompassed by the first range and the third range encompassed by the first and second ranges.

Claim 10 is indefinite since it is unclear what is meant by "mixed crystal". This phrase is not defined in the specification and it has multiple definitions in the art.

Claims 11, 14 and 15 are indefinite since they state the emission spectrum of the first and second additives are complementary, but they also teach that they overlap. In the phosphor art, the "complementary" means the emissions, which do not overlap, combine to give a white light.

For examples yellow and blue are complementary colors since together they provide white light. The claimed overlapping emissions do not give white light.

Finally, claim 21 is indefinite since it teaches the system contains more than one basic substance, but claim 1 only allows for one basic substance and terms all other luminescent substances as additives.

Claims 1-25 are being interpreted, for the purposes of the art rejections, as being directed to a single composition, used to provide security or identification codes or marks to or in materials, comprising a luminescent basic substance and at least one luminescent additive. This interpretation corresponds with the requirements of claims 1-20 and 22-25 and the teachings in the specification.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

These are provisional obviousness-type double patenting rejections because the conflicting claims have not in fact been patented.

Claims 1-4, 6-10, 19, 21 and 22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/574,663. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application are directed to a document marked with a coding comprising a first and second luminescent substance having a joint emission range outside the visible spectra range. These claims suggest the use claim and the coding system claims of the present application. The joint range and substance compositions claimed in the co-pending application are those of claims 2-4, 7-10 and 22 and overlaps that of claim 19 of this application.

Claims 1-4 and 6-25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8, 17, 18 and 20-28 of copending Application No. 10/574,831. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application are directed a coding system comprising a first and second luminescent substance having a joint emission range outside the visible spectra range and a document comprising this system. Claims 1-12 and 15-28 of the copending application suggest the use claim and the coding system claims of the present application. The joint range and substance compositions claimed in the co-pending application are those of claims 2-4, 7-10 and 22 and overlaps that of claim 19 of this application. Claim 17 of the co-pending application teaches that the system can contain a third luminescent substance which emits in the joint emission range. The third luminescent substance can read

upon applicants' basic substance and the first and second luminescent substance can read upon the claimed first and second additives in this application. In addition, the first and second luminescent substance can read upon the plural basic substances of claim 20, while the third reads upon the additive of this application. Thus the claims of the copending application suggests claims 11-18, 20 and 23-25.

Claims 1, 6, 7 and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 12-14 of copending Application No. 10/574,838. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application are directed to a document marked with a coding system comprising a first and second and optionally a fourth luminescent substance. The substances can be composed of rare earth doped host lattice. The document and system of the copending application suggest the use claim and the coding system claims of the present application.

Claims 1, 6, 7 and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3 and 5-7 of copending Application No. 10/575,074. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application are directed to a document marked with a coding system comprising a first and second and optionally a third luminescent substance. The substances can be composed of rare earth doped host lattice. The document and system of the copending application suggest the use claim and the coding system claims of the present application.

Claims 1, 6, 7 and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of copending Application No. 10/575,078. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application are directed to a document marked with a coding system comprising a basic luminescent substance and a plurality of luminescent additives. The substances and additives can be composed of rare earth doped host lattice. The document and system of the copending application suggest the use claim and the coding system claims of the present application.

Claims 1, 6, 7 and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of copending Application No. 10/575,079. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application are directed to a document marked with a coding system comprising a basic luminescent substance and a plurality of luminescent additives. The substances and additives can be composed of rare earth doped host lattice. The document and system of the copending application suggest the use claim and the coding system claims of the present application.

Claims 1 and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 11/660,809. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application are directed to a coding system of at least two luminescent substances that have overlapping emission ranges and a document marked with a coding system .

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5-8 and 20-22 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 3,473,027.

This reference teaches an ink for marking bank checks, a value document. The ink comprises at least two different luminescent substances, all of which emit different wavelengths in the visible range, which reads upon the claimed joint emission range. The examples teaches an ink which emits at least tow of red, orange, green and blue light. Thus the examples teaches compositions where two luminescent substances, the green and blue, emit light that does not overlap with the light emitted by red and/or orange luminescent substances. Column 7, lines 14-38 teaches that the luminescent substance can be rare earth doped host lattices where the rare earth can be Pr, Nd, Dy, Ho, Er, Tm or Yb. The formulas include vanadium and rare earth doped CaMoO_4 . Since the reference does not define the luminescent substances as a basic substance and additive substances, it reads upon the claimed composition of one basic substance and at least two additive substances and the claimed composition of at least two basic substances and at least two additive substances. The reference teaches the claimed system and method of using the system.

Claims 1, 2, 5-8, 11, 12, 14, 16-18, 20 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 4,013,490.

This reference teaches a coding composition comprising at least two luminescent substances. One of the examples, given in column 5, lines 21-28, is a mixture of a Sb and Mn activated, or doped, halophosphate apatite phosphor, as shown in figure 4, and europium activated yttrium oxide, as shown in figure 7. These phosphors emit in the joint range of 400 to about 600 nm. These phosphors fall within the compositions of claims 5-8. Tables III-V teach other combinations of phosphors where the host lattice for the given rare earth activators is yttrium oxide. The reference teaches the phosphor of table II can be combined with codes of tables III-IV, where the joint range is about 300 to about 700 nm. Thus it teaches a compositions of calcium tungstate or manganese doped zinc silicate with yttrium oxide activated with Eu and yttrium oxide activated Sm, which reads upon the composition of claims 5, 11, 14, 16 and 23-25, since the main emissions lines of Sm and Eu appear to be the same in figures 7 and 9. It also teaches compositions of calcium tungstate or manganese doped zinc silicate with yttrium oxide activated with Eu, yttrium oxide activated Sm and yttrium oxide activated with Pr or Gd and compositions of calcium tungstate or manganese doped zinc silicate with yttrium oxide activated with Eu, yttrium oxide activated Sm, yttrium oxide activated with Pr and yttrium oxide activated with Gd. This composition reads upon the compositions of claims 17 and 18 with the yttrium activated Gd as the basic luminescent substance since calcium tungstate or manganese doped zinc silicate and yttrium oxide activated with Pr have an overlapping emission range in the joint emission range or 300-700 nm. Since the reference does not define the luminescent substances as a basic substance and additive substances, it reads upon the claimed composition of one basic substance and three to four additive substances and the claimed composition of two to four basic substances and one to three additive substances. The reference teaches the claimed system.

Claims 1-5, 11, 14-18, 20, 21, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 6,380,547.

This reference teaches an composition for securing, by tagging, value documents, such as currency or books. The composition contains a plurality of luminescent dyes which emit in the range, such as in the range of 550-650 nm, where the composition contains at least three dyes where the emission lines do not overlap each other or composition where two of the dyes have a joint emission range of 580-600 nm, 600-620 nm in the range or 620-640 nm in the broad joint range of 550-650 nm (col. 3, lines 1-15). These composition suggest those of claims 5, 11, 14, 16, 23 and 24. Since the reference does not define the luminescent substances as a basic substance and additive substances, it reads upon the claimed composition of one basic substance and one to three additive substances and the claimed composition of two to three basic substances and one to two additive substances. Column 7, lines 50-59 teaches that the composition can also contain a plurality of luminescent dyes which emit outside the visible wavelength range, such as in the range of 700-1200 nm (col. 5, lines 50-56). This range falls within that of claim 4. The preferred number of dyes is at least three and even more preferable is at least five dyes (col. 8, lines 11-16) and figure 1 teaches five luminescent dyes that have an emission peaks or lines in the range 700-960 nm. These dyes include two pair of dyes that have overlapping emission ranges and the overlapping emission range of each pair does not overlap the other. One pair has an overlapping range of 890-930 nm, which falls within one of the ranges of claim 15. The reference teaches the claimed system and method of using the system.

Claims 1, 2, 6-10, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/070279.

U.S. patent application publication 20040105962 is the national stage application for WO 02/070279 and thus is the translation for WO 02/070279.

The references teach a value document having a composition which secures the document. The composition can contain several luminescent substances (para 106), which reads upon the system of claim 1. the substances are host lattices, which can be formed by a mixed crystal (para 104) doped with at least one chromophore, preferably at least two, selected from the group consisting of ions with a $(3d)^2$ electron configuration such as Ti, V, Cr, Mn and Fe. These substances all luminescent in the IR wavelength range. In addition, they can be codoped with rare earth elements, such as Nd, Ho, Er, Tm and/or Yb The reference teaches the claimed system and method of using the system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/cmk/
June 26, 2009

/C. Melissa Koslow/
Primary Examiner
Art Unit 1793